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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/733,503	12/11/2003	Scott A. Flatness	EH-10960 (03-430)	9228
34704 7590 08/08/2007 BACHMAN & LAPOINTE, P.C. 900 CHAPEL STREET SUITE 1201 NEW HAVEN, CT 06510			EXAMINER COCKS, JOSIAH C	
			ART UNIT 3749	PAPER NUMBER
			MAIL DATE 08/08/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/733,503

Applicant(s)

FLATNESS ET AL.

Examiner

Josiah Cocks

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 May 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) 10-13 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7, 9 and 14-17 is/are rejected.
- 7) ☒ Claim(s) 8 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application
- ☐ Other: _____

DETAILED ACTION

Response to Amendment

1. Receipt of applicant's amendment filed May 21, 2007 is acknowledged. By this amendment, applicant has argued the rejections applied to claims 1-7 and 9 and has added claims 14-17.

The examiner notes that in the prior Office action, a reference to claim 3 in statement of the grounds of rejection based on Goddard applied under 35 USC 103(a) was inadvertently omitted. It appears that due to typographical error claim 4 was listed as rejected both under 35 USC 102(b) and 35 USC 103(a). The correct statements of the grounds of rejection appear below. As claim 3 was not previously properly rejected, this Office action is made non-final.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. **Claims 1, 2, 4, 14 and 15** are rejected under 35 U.S.C. 102(b) as being anticipated by **U.S. Patent No. 2,465,525 to Goddard ("Goddard")**.

Goddard discloses in the specification and Figs. 1-13 an invention in the same field of endeavor as applicant's invention and as described in applicant's claims 1, 2, 4, 14, and 15.

In particular, in regard to at least claims 1 and 14, Goddard shows an apparatus comprising an elongate combustion conduit (30) extending from an upstream end to a downstream end associated with an aperture in a wall of a vessel (20) and positioned to direct a shockwave toward a surface of the vessel, and a resilient member (either compression springs 42 or tension spring 124) resiliently restraining the combustion conduit against recoil forces (see col. 3, lines 5-9 and col. 5, lines 53-59).

In regard to the recitation that the apparatus is “for cleaning a surface within a vessel” (claim 1) and that the device is an “industrial facility” (claim 14) these statements in the preamble are regarded as merely statements of the intended use of the apparatus. It has been held that if the body of a claim fully and intrinsically sets forth all of the limitations of the claimed invention, and the preamble merely states, for example, the purpose or intended use of the invention, rather than any distinct definition of the claimed invention’s limitations, then the preamble is not considered a limitation and is of no significance to claim construction. *Pitney Bowes, Inc. v. Hewlett-Packard Co.*, 182 F.3d 1298, 1305, 51 USPQ2d 1161, 1165 (Fed. Cir. 1999); see also MPEP 2111.02. Further, a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In a claim drawn to a process of making, the intended use must result in a manipulative difference as compared to the prior art. See *In re Casey*, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 136 USPQ 458, 459 (CCPA 1963). In this case, the device of Goddard would be capable of cleaning an interior surface of

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the combustion chamber/vessel (20) and would be capable of serving as an industrial facility thus meets applicant's claim recitations.

In regard to at least claims 2 and 15, each of the springs (42 or 124) couple the combustion conduit to the wall (see Figs. 1 and 13).

In regard to at least claim 4, note tension spring (124).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. **Claims 3 and 16** are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 2,465,525 to Goddard ("Goddard").

Goddard discloses substantially all the limitations of claims 3 and 16 (note discussion of this reference above). While Goddard does clearly show that at least springs (42) are coil springs (see col. 3, line 2), Goddard possibly does not disclose that the springs are metal.

However, OFFICIAL NOTICE is taken that coil springs are well understood to be made of metal. Further, it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. See *In re Leshin*, 125 USPQ 416. See also *Ballas Liquidating Co. v. Allied industries of Kansas, Inc.* (DC Kans) 205 USPQ 331 and MPEP 2144.07.

Therefore, selecting metal as the material for the coil spring of Goddard is within the ability of a person of ordinary skill in the art and does not patentably distinguish applicant's invention.

7. **Claims 5-7** are rejected under 35 U.S.C. 103(a) as being unpatentable over **U.S. Patent No. 2,465,525 to Goddard** ("Goddard") in view of **U.S. Patent No. 5,494,004 to Hunter, Jr.** ("Hunter") (cited by applicant).

Goddard discloses substantially all the limitations of claims 5-7 (note discussion of this reference above) with the exception of a plurality of moveable supports that comprise a plurality of trolleys each having wheels engaging a track on a support surface.

Hunter teaches a pulse detonation soot blower producing a pulsed pressure wave (See col. 3, lines 10-14) that is considered to be analogous art to both applicant's invention and Goddard. In Hunter, a combustion conduit (at least 51) is arranged on a plurality of moveable supports

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(153R and 153F) that include a plurality of trolleys each having wheels (155) that engage a track (157) on a support surface (top of 161).

Therefore, in regard to claims 5-7, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the device of Goddard to incorporate the moveable supporting trolley assembly of Hunter for the desirable purpose of facilitating the advancement of the pulsed detonation device into and out of the openings of the vessel that receives the pulsed pressure wave (see Hunter, at least col. 3, line 34 through col. 4, line 2).

8. **Claims 5, 9, and 17** are rejected under 35 U.S.C. 103(a) as being unpatentable over **U.S. Patent No. 2,465,525 to Goddard** ("Goddard") in view of **U.S. Patent No. 5,031,691 to Boisture** ("Boisture").

Goddard discloses substantially all the limitations of claims 5, 9, and 17 (note discussion of this reference above) with the exception of a plurality of moveable supports that comprise a plurality of hangers and that the surface is formed by a tube bundle.

Boisture teaches a lance cleaning system that is considered to be analogous art to both applicant's invention and Goddard. In Boisture, the conduit of a cleaning lance (100, see Fig. 1) is mounted to a plurality of support members (300) that are capable of movement and thus moveable. Further, Boisture contemplates that the lance (100) may be supported or hung via a crane, frame or other suitable means to allow for the operation of the lance (see col. 10, lines 14-23). This teaching is considered to meet applicant's recitation of a hanger. Regarding the recitation of multiple hangers, it has been held that the mere duplication of parts has no patentable significance unless a new or unexpected result is produced. See MPEP

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2144.04(VI)(B). In this case, the examiner considers that duplication of the hanging supports of Boisture would result in the expected result of duplicate means of support and does not serve to patentably distinguish applicant's invention.

In regard to at least claim 17, in Boisture the vessel that is cleaned by lance (L) functions to clean a vessel that includes a surface formed by a tube bundle (B) (see col. 3, line 67 through col. 4, line 3 and col. 9, line 41-50). The examiner considers that a person of ordinary skill in the art would reasonably and fairly recognize that the combustion device of Goddard, when incorporated into a vessel including tube bundles as taught in Boisture, would function to clean the surfaces of the tube bundles as recited in applicant's claim.

Therefore, in regard to claims 5, 9, and 17, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the apparatus of Goddard to incorporate the moveable supports in the form of hangers as suggested by Boisture for the desirable purpose of supporting the combustion device and facilitating the insertion and removal of the combustion device from a vessel when in a vertical position (see Boisture, col. 10, lines 14-23).

Allowable Subject Matter

9. Claim 8 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

10. Applicant's arguments filed May 21, 2007 have been carefully considered but they are not persuasive.

Applicant argues that the Goddard reference should not be regarded to be in the same field of endeavor as applicant's invention and thus presumably applicant is asserting that this reference is non-analogous art. The examiner respectfully disagrees.

In response, the examiner notes that each of applicant's invention and Goddard are drawn to combustion device which use a fuel and oxidant charge to generate a detonation within a chamber. The examiner notes that due to the similar subject matter each of applicant's invention and Goddard find classification in class 431 - COMBUSTION. Accordingly, Goddard is reasonably considered to be analogous art to applicant's invention.

Applicant further argues that "there is no identification that the Goddard device generates a shockwave." The examiner respectfully disagrees.

In response, the examiner notes that the invention of Goddard is drawn to a pulse type burner that directs fuel and oxidant charges to a chamber to cause a intermittent detonation. The examiner notes that applicant's invention employs the same operation and structure to accomplish detonation of a fuel and oxidant that serves to generate a "shockwave". Is applicant asserting that despite the transmittance of the feed charges to the pulse burner of Goddard and the subsequent detonation within the chamber (20) that the combustion pulse cannot be regarded as shockwave? The examiner respectfully disagrees and asserts that this detonation pulse is properly regarded as applicant's recited shockwave.

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Applicant also argues that in Goddard "no wall has been identified." The examiner respectfully disagrees.

In response, the examiner notes that Goddard plainly and unambiguously discloses that chamber (20) includes a outer wall through which the combustion conduit (30) extends (see at least Fig. 1).

Applicant also argues that there is no motivation to combine the teachings of Hunter with that of Goddard. The examiner respectfully disagrees.

In response, the examiner notes that the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. *In re Keller*, 642 F.2d 413, 425, 208 USPQ 871, 881 (CCPA 1981). Further, regarding rejections under 35 U.S.C. § 103, the proper inquiry should not be limited to the specific structure shown by a reference, but should be into the concepts fairly contained therein, with the overriding question to be determined being whether those concepts would have suggested to one skilled in the art the modification called for by the claims. See *In re Bascom*, 230 F.2d 612, 614, 109 USPQ 98, 100 (CCPA 1956). Also, under 35 U.S.C. § 103, a reference must be considered not only for what it expressly teaches, but also for what it fairly suggests (*In re Burckel*, 592 F.2d 1175, 1179, 201 USPQ 67, 70 (CCPA 1979); *In re Lamberti*, 545 F.2d 745, 750, 192 USPQ 278, 280 (CCPA 1976)), as well as the reasonable inferences which the artisan would logically draw from the reference. See *In re Shepard*, 319 F.2d 194, 197, 138 USPQ 148, 150 (CCPA 1963).

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In this case, the examiner considers that the teachings of Hunter of a plurality of trolleys that provide for insertion and removal of a combustion device for producing a detonation effect for cleaning the interior of a vessel would reasonably and fairly suggest to a person of ordinary skill in the art to incorporate these trolleys into the combustion device of Goddard, as the moveable trolleys of Hunter are expressly noted to provide structure that facilitates the insertion and removal of the combustion device in a vessel (see Hunter, at least col. 3, line 34 through col. 4, line 2).

Applicant also argues that Boisture is non-analogous art to Goddard, and presumably applicant's invention, because Boisture is concerned with cleaning the interior surfaces of vessels, whereas applicant's invention is directed to a combustion cleaning device used of exterior surface (see response, p. 6). The examiner respectfully disagrees.

In response, the examiner notes that as at least described in applicant's abstract and claims, applicant's invention is concerned with "cleaning a surface **within a vessel**" (**emphasis added**). It is unclear why applicant now argues a distinction between external and internal surface cleaning when applicant's own invention appears directed to the cleaning of surfaces within a vessel (i.e. interior surfaces).

Accordingly, while applicant's amendment and arguments have been carefully considered, they are not persuasive. Applicant's claims 1-7, 9, and 14-17 are not considered to patentably distinguish applicant's invention over the prior art of record.

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Conclusion

11. This action is made non-final. A THREE (3) MONTH shortened statutory period for reply has been set. Extensions of time may be available under the provisions of 37 CFR

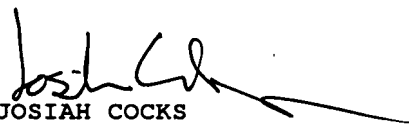
1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Josiah Cocks whose telephone number is (571) 272-4874. The examiner can normally be reached on M-F 8:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven McAllister, can be reached (571) 272-6785. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

jcc
August 6, 2007


JOSIAH COCKS
PRIMARY EXAMINER
ART UNIT 3749